INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

Design Memorandum No. 08-06
Technical Advisory

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TO: **All Design, Operations, and District Personnel, and Consultants**

FROM: ***/s/ Anthony L. Uremovich***
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SUBJECT: **Temporary Pavement Markings**

REVISES: ***Indiana Design Manual*** **Section 83-4.0**

EFFECTIVE: **September 4, 2008, Letting**

The INDOT *Standard Drawings* and the *MUTCD* provide the Department's criteria for the selection, application, and placement of pavement markings in a construction zone. The INDOT *Standard Specifications* provides additional information on temporary-pavement-marking material usage. *Indiana Design Manual* Chapter Seventy-six should also be reviewed for applicable information. The following provides supplemental guidelines to these sources.

I. Types

A. Paint

Quick-drying traffic paint is a low-cost, temporary pavement marking. To improve reflectivity, glass beads are required. Temporary paint is a non-removable type of temporary pavement marking. The Department does not desire the use of temporary paint markings on a final pavement surface. However, temporary paint may be the most suitable choice under certain conditions, particularly if temporary markings are anticipated to be in place through the winter months.

B. Temporary Raised Pavement Markers

In a high-traffic-volume location, raised temporary pavement markers should be considered as a supplemental device to improve delineation through the construction zone. Typical locations include canter line, lane line, gore area, or where there are changes in the alignment (e.g., lane closure, lane shift). For a center line or lane line, temporary raised pavement markers are placed at the mid-point in the each gap, i.e., every 40 ft (12 m). For a taper, gore, etc., the raised markers should be spaced at 20 ft (6 m). Temporary raised pavement markers must be removed prior to the placing of the next pavement course.

C. Temporary Pavement Marking Tape

Temporary pavement marking tape is an excellent material choice where there is a change to the traffic pattern during construction (e.g., crossover switch). Temporary tape can be easily and quickly installed and, if necessary, easily removed. Disadvantages of temporary tape are that it tends to move or break up under heavy traffic volume, and that it is not suitable for usage during the winter months. Temporary pavement marking tape requires significant maintenance in comparison to temporary paint. The following describes the temporary pavement marking tapes used by the Department.

1. Type I. Type I tape may be used as a temporary center line, lane line, or no-passing-zone line that is placed parallel to the normal pavement marking pattern, or as a temporary transverse marking or pavement-message marking. It should also be used where pavement markings are placed at an angle to the normal pavement-marking pattern (e.g., taper for lane closure, lane shift). Type I tape is a removable type of temporary pavement marking.

2. Type II. Type II tape is used on a pavement which is expected to be removed or covered by additional pavement courses. It may be used as a center line, lane line, or edge line that is parallel to the normal pavement markings. It also may be used as a center line or lane line on a resurfacing overlay course. Type II tape is a non-removable type of temporary pavement marking.

D. Thermoplastic or Epoxy Markings

Thermoplastic or epoxy markings are used in a construction zone only if the traffic volume is high, and the temporary traffic pattern will be in place for over one year. Thermoplastic or epoxy markings are non-removable types of pavement markings.

E. Buzz Strips

Buzz strips are used on a high-speed facility of 4 lanes or more in advance of a lane closure, alignment change, or stop condition to warn the motorist of the impending change. They are made with extruded material or repeated passes of pavement-marking tape to reach a ¼-in. (6-mm) height. *Indiana Design Manual* Figure 83-4A illustrates the typical layout for buzz strips with a lane closure. The spacing criteria are also applicable to the other conditions listed above.

II. Application

The application of temporary pavement markings in a construction zone depends on facility type, project duration, project length, and anticipated traffic volume. The phasing of temporary traffic control during construction should be considered. The temporary pavement markings should be selected that are best suited to the anticipated conditions and are most economical for the project. The removal of a removable temporary pavement marking is included in the removable-temporary-pavement-marking quantity. If non-removable markings that must be removed are selected as part of the planned traffic-maintenance plan, a quantity for removal of the non-removable markings is required, as this is a separate pay item. If non-removable temporary pavement markings are necessary on a final surface, placement of the temporary markings should be indicated to be as near as possible to the location of the final permanent pavement markings. The INDOT *Standard Specifications* provide additional criteria for the use of temporary pavement markings in a construction zone.

III. Pay Items and Recurring Special Provision

The pay items and pay units required for this work are unchanged. Recurring Special Provision 801-T-165 is attached hereto. The provision is required through the August 2010, letting, for a contract that includes pay items regarding temporary pavement markings. After that time, the provision will be incorporated into the INDOT *Standard Specifications*.

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